UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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DATE MAILED: 10/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _09 July 2003_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-16_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-16_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _09 July 2003_ is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *   c)☒ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-16 have been examined.

Priority

2.   Acknowledgment is made of applicant's claim for foreign priority based on an

application filed in United Kingdom on 19 July 2000. It is noted, however, that applicant

has not filed a certified copy of the United Kingdom 0216770.8 application as required

by 35 U.S.C. 119(b).

Drawings

3.   The drawings are objected to because:

a.   "a communication interface" in claim 1 is designated by reference

character '10' in the specification, but in Fig. 1 reference character '10' is described as

"Data Transaction via Host/Device USB interface unit".

b.   "Data & Decision for primary/secondary layer memory access" in Fig.1,

reference character '3' should be "Data & Decision means for primary/secondary layer

memory access";

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in

reply to the Office action to avoid abandonment of the application. Any amended

replacement drawing sheet should include all of the figures appearing on the immediate

prior version of the sheet, even if only one figure is being amended. The figure or figure

number of an amended drawing should not be labeled as "amended." If a drawing figure

is to be canceled, the appropriate figure must be removed from the replacement sheet,

and where necessary, the remaining figures must be renumbered and appropriate

changes made to the brief description of the several views of the drawings for

consistency. Additional replacement sheets may be necessary to show the renumbering

of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New

Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next

Office action. The objection to the drawings will not be held in abeyance.

   c.   The drawings are objected to under 37 CFR 1.83(a). The drawings must

show every feature of the invention specified in the claims. Therefore, "a portable data

storage device" and "layered memory architecture" must be shown or the feature(s)

canceled from the claim(s). No new matter should be entered.

   Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in

reply to the Office action to avoid abandonment of the application. Any amended

replacement drawing sheet should include all of the figures appearing on the immediate

prior version of the sheet, even if only one figure is being amended. The figure or figure

number of an amended drawing should not be labeled as "amended." If a drawing figure

is to be canceled, the appropriate figure must be removed from the replacement sheet,

and where necessary, the remaining figures must be renumbered and appropriate

changes made to the brief description of the several views of the drawings for

consistency. Additional replacement sheets may be necessary to show the renumbering

of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New

Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next

Office action. The objection to the drawings will not be held in abeyance.

Specification

4.   The disclosure is objected to because they appear to be a literal translation into

English from a foreign document and are replete with grammatical and idiomatic errors.

For example,

On page 6, "The data and decision means (3) is in communication with and

receives key input from the host computer (11) and/or key input from the device

itself."

The sentence structure is grammatically incomprehensible.

Appropriate corrections are required.

Claim Objections

5.   Claims 1-13 are objected to because of the following informalities:

a.   In claim 1, preamble and body of the claim are not clear defined;

b.   In claims 7-13 are being objected as incorporating the deficiencies of

claim 1 upon which it depends. Additionally, incorporate "a device as in claim 1" in the

claims 7-13.

Any claim not specifically addressed, above, is being objected as incorporating

the deficiencies of a claim upon which it depends.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

7.   Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

Claims **1-16** are rejected under the second paragraph of 35 U.S.C. § 112,

because the instant claims are generally narrative and indefinite, failing to conform with

current U.S. practice. They appear to be a literal translation into English from a foreign

document and are replete with grammatical and idiomatic errors.

Regarding **claim 1**, preamble and body of the claim are not clear defined.

Examiner is confused what the Applicant attempts to claim. A device or generate a key

or a memory storage means.

Regarding **claim 7** is being rejected as incorporating the deficiencies of a claim 1

upon which it depends. Additionally, the claim recites "a memory storage means". It is

unclear whether this is intended to be the primary memory storage means or the secondary memory storage means recited in claim 1. For purposes of examination on the merits of this claim, the claim is interpreted to read "the primary or the secondary memory storage means".

Regarding **claim 14**, preamble and body of the claim are not clear defined. Examiner is confused with what the Applicant is intended to claim, a process of encryption of users key input or a process of combine the user input key with the factory preset key. Additionally, "this key" recited on page 10. It is unclear whether this is intended to be the same as or different form "users key input" or "a pseudo random generated key" on page 10.

Regarding **claim 15** is being rejected as incorporating the deficiencies of a claim 14 upon which it depends. Additionally, "the memory means" recited on page 10 lacks of an antecedent basis.

Regarding **claim 16**, "the data and decision means", "the secure encryption key" and "the secure memory means" recited on page 10 lacks of an antecedent basis. Additionally, "the secure key processing unit" recited on page 11. It is unclear whether this is intended to be the same as or different from the "key processing unit" recited on page 10. Furthermore, "key input" recited on page 10. It is unclear whether this is intended to be the same as or different form "a secure key" or "the encrypted user key" recited on page 11.

Any claim not specifically addressed, above, is being rejected as incorporating the deficiencies of a claim upon which it depends.

Claim Rejections - 35 USC § 101

8.   35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9.   Claims 14-16 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 14-15 are directed to a process of encryption of users key input. The examiner respectfully asserts that the claimed subject matter does not fall within the statutory classes listed in 35 USC 101. The claimed process does not result in a tangible result. Claims 14-15 are rejected as being directed to an abstract idea (i.e., producing non-tangible result) [tangible requirement does require that the claim must recite more than a 101 judicial exception, in that the process must set forth a practical application of that 101 judicial exception to produce a real-world result, Benson, 409 U.S. at 71-72, 175 USPQ at 676-77).

Claim 16 is directed to a process of decryption of key input by a user. The examiner respectfully asserts that the claimed subject matter does not fall within the statutory classes listed in 35 USC 101. The claimed process does not result in a tangible result. Claim 16 is rejected as being directed to an abstract idea (i.e., producing non-tangible result) [tangible requirement does require that the claim must recite more than a 101 judicial exception, in that the process must set forth a practical application of that 101 judicial exception to produce a real-world result, Benson, 409 U.S. at 71-72, 175 USPQ at 676-77).

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10.   Claims 1-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Cheng

et al. (U.S. Patent No. 6,880,054),

As per **claim 1**, Cheng et al. discloses a portable data storage device (device 10

in Fig. 1 – abstract) which can interface with a remote computer such as a desktop PC

or a mobile portable notebook computer and which is capable of securing data by

reference to a polynomial key generated by pseudo random generated parameters and

wherein the device can act as a host or as a client in relation to user access to the data

stored therein and wherein the data stored in the device is stored in layered memory

architecture and wherein the device is disposed with a communications interface (the

interface devices comprises a universal serial bus (USB) driver to convert data between

a USB format and a PC format, and the coupling devices comprises a USB coupling

device – e.g. col. 2, lines1-4), a microcontroller (micro-controller 3 in Fig. 1) with a built

in switchable input means (manual switch 7 in Fig. 1 – e.g. col. 2, line 67- col. 3, lines 1-

3, col. 3, lines 10-52), a primary and secondary memory storage means (a non-volatile

solid-state memory device – e.g. abstract), a data processing unit (micro-controller 3 in

Fig. 1), a data and decision means (col. 2, lines 33-37), a secure key processing unit

(the encryption, decryption, data control and USB protocol are all managed by the

micro-controller 3 – e.g. col. 2, lines 61-62), an access control decision unit (the micro-

controller 3 receives the password entered by the user, retrieves the zone 1 password

stored in the flash memory 4, decrypts the zone 1 password and compares it with the

password entered by the user to authenticate 38 whether the user is authorized to

install the software – e.g . col. 3, lines 57-64 and col. 2, lines 33-37) and an encryption

smart key storage unit (the passwords are stored in a secure location of the flash

memory in an encrypted form – e.g. col. 2, lines 59-60).

As per **claim 2**, Cheng et al. discloses a device as applied in claim 1. Cheng et

al. further discloses wherein the communications interface is in two-way communication

with the data processing unit (Fig. 1).

As per **claim 3**, Cheng et al. discloses a device as applied in claim 1. Cheng et

al. further discloses wherein the data processing unit is in communication with the

access control decision unit and is in two-way communication with the primary and

secondary memory means (Fig. 1 and col. 2, lines 25-32).

As per **claim 4**, Cheng et al. discloses a device as applied in claim 1. Cheng et

al. further discloses wherein the secure key processing unit is reversibly connected with

the encrypted smart key storage unit and is further in communication with the access

control decision unit (Fig. 1, col. 2, lines 59-62).

As per **claim 5**, Cheng et al. discloses a device as applied in claim 1. Cheng et al. further discloses wherein the microcontroller with the built in switchable input is in communication with the data and decision means (Fig. 1, col. 2, lines 65-67, col. 3, 1-3 and col. 3, lines 40-52).

As per **claim 6**, Cheng et al. discloses a device as applied in claim 1. Cheng et al. further discloses wherein the data and decision means is in communication with the secure key processing unit (fig. 1).

As per **claim 7**, Cheng et al. discloses a memory storage means as applied in claim 1. Cheng et al. further discloses wherein the memory means may be volatile or non volatile and wherein the storage means is capable of reversibly receiving and storing data for multi read/write applications (e.g. abstract).

As per **claim 8**, Cheng et al. discloses an access control decision unit as applied in claim 1. Cheng et al. further discloses wherein the decision unit determines whether a user may have access to the primary and or the secondary layer memory means in accordance to the user key input (col. 2, lines 33-37).

As per **claim 9**, Cheng et al. discloses a secure key-processing unit as applied in claim 1. Cheng et al. further discloses wherein the secure key-processing unit is responsible for the functionality of encrypting and decrypting key input from users (col. 2, lines 61-62).

As per **claim 10**, Cheng et al. discloses a data processing unit as applied in claim 1. Cheng et al. further discloses wherein the data processing unit processes data stored in the primary and secondary memory means prior to access by the user via the communications interface (e.g. col. 3, lines 26-37).

As per **claim 11**, Cheng et al. discloses a microcontroller unit with built in switchable input as applied in claim 1. Cheng et al. further discloses wherein the microcontroller provides a gateway whereby a user may interface with the data storage device via a host computer and wherein the switchable input permits the device to act as a host wherein the device protects access to the data stored in the memory means and permits the device to as a client wherein the device can be connected to a host computer and wherein the device can permit authorised users to access the computer to which the device is attached (col. 1, lines 59-63, col. 2, lines 65-67, col. 3, lines 1-3, col. 3, lines 10-52 and Fig. 2, 3).

As per **claim 12**, Cheng et al. discloses an encrypted smart key storage unit as applied in claim 1. Cheng et al. further discloses wherein a factory preset encrypted key is stored (col. 2, lines 37-60, col. 3, lines 10-25 and Fig. 2).

As per **claim 13**, Cheng et al. discloses a data and decision means as applied in claim 1. Cheng et al. further discloses wherein the data and decision means authenticates the key input from the user and determines whether the user shall be permitted access to the data stored in the primary and or secondary layer memory means (col. 2, lines 33-37).

11.   Claims 14-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Xie et al. (US Pub. No. 2003/0046593).

As per **claim 14**, Xie et al. discloses a process of encryption of users key input wherein key input by the user (user password – e.g. paragraph [0015]) is converted to a pseudo random generated key in accordance with predefined algorithms (encrypting the password – e.g. paragraph [0006]) and wherein this key is combined with the factory preset key (Xie et al. reference's synch counter set at manufacture in paragraph [0043] corresponds to the Applicant's factory preset key) in a polynomial sequence appending process to produce a secure key (In operation, the password stored in memory 310 is combined with a value from the synch counter 314. The value from the synch counter is used to generate a key value for the encryption/decryption algorithm. Using the

encryption key and the password, an encrypted password is produced – e.g. paragraph

[0043]) and wherein the secure key is pointed and is only accessible by an encryption

pointer key (paragraph [0056]).

As per **claim 15**, Xie et al. discloses a process of encryption as applied in claim

14. Xie et al. further discloses wherein the secure encrypted polynomial key is stored in

the memory means (In the memory 322, a password and the synchronization counter

value can be stored. In operation, the password stored in memory 310 is combined with

a value from the synch counter 314 – e.g. paragraph [0043]).

As per **claim 16**, Xie et al. discloses a process of decryption of key input by a

user wherein the key input is evaluated and authenticated by the data and decision

means and upon authentication an encryption pointer is prepared by key processing

unit to retrieve the secure encryption key from the secure memory means and wherein a

secure key is generated by the secure key processing unit in a polynomial sequence

appending process wherein the encrypted user key is combined with (In operation, the

password stored in memory 310 is combined with a value from the synch counter 314.

The value from the synch counter is used to generate a key value for the

encryption/decryption algorithm. Using the encryption key and the password, an

encrypted password is produced – e.g. paragraph [0043]) a factory preset code (Xie et

al. reference's synch counter set at manufacture in paragraph [0043] corresponds to the

Applicant's factory preset key) and wherein this secure key is decrypted by the data

processing unit (paragraph [0043] and [0051]).

Conclusion

12.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

> Iijima (U.S. Patent No. 5,929,428) discloses a file managing method includes a

  step of setting a key data of a portable storage medium.

> McCaughan et al. (U.S. Patent No. 6,173,282) discloses restricted data is stored

  on a smart card having a memory and a processor.

> Kim (US Pub No. 2003/0163634) discloses a portable data storage apparatus

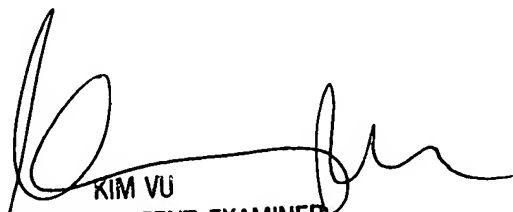 being capable of storing data.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to April Y. Shan whose telephone number is (571) 270-1014. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y. Vu can be reached on (571) 272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

03 October 2006
AYS

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